

POLICIES AND PROCEDURES

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Section 68.0
BLASTING AND SPRAY PAINTING

68.1 Purpose

68.1.1 The purpose of this procedure is to establish guidelines for all personnel in blasting and painting and help the company with compliance of 29 CFR 1910.94(a).

68.2 Scope

This procedure applies to all personnel including company, client, and/or visitors while at one of the company facilities while blasting and painting.

68.3 Responsibilities

68.3.1 The President or his designee is responsible for ensuring that employees have completed the training required by this procedure.

a. Additional responsibilities include:

1. The implementation of this Policy.
2. Take corrective actions on all violations or suspected violations of this procedure.
3. Documentation of completion by each employee.

68.3.2 The Safety Director is responsible for providing assistance in the implementation of this Policy.

68.3.3 The Supervisor is responsible for providing assistance in the implementation of this policy.

68.3.4 All employees are responsible for understanding the requirements of this procedure and conducting all work-related tasks according to these requirements.

68.4 Procedure

Abrasives and the surface coatings on the materials blasted are shattered and pulverized during blasting operations and the dust formed will contain particles of respirable size. The composition and toxicity of the dust from these sources shall be considered in making an evaluation of the potential health hazards.

Abrasive blasting and spray painting can cause airborne particles, be a source of ignition, pollute the atmosphere and/or be harmful to personnel.

For those reasons Waveland Services, Inc. has requirements for utilizing spray painting equipment and abrasive blaster equipment in accordance with 29 CFR 1910.94(a).

- a. All local, state and federal air pollution standards will be adhered to.
- b. All employees and contractors performing this type of work will comply with these regulations.

68.5 Operational Procedures and General Safety Guidelines

68.5.1 Spray Painting Precautions

Prevention of damage to personal property due to overspray warrants one or all of the following fundamental safeguards.

- a. Determine wind direction and speed before conducting spraying operation (wind sock, contact weather station, a piece of

light-weight material hung near area, or wind velocity meter).

- b. Do not attempt spray painting operations if wind velocity and directions are such that the overspray is carried a distance beyond the spraying area to nearby surfaces that could be damaged.
- c. Remove personal property from the vicinity of the spraying area.
- d. Perform spray painting during off-shift (weekend), when exposure to personal property is at a minimum, or there is not exposure.
- e. All paint storage buildings must have explosion proof lights and conform to the Fire Prevention Section.
- f. Employees shall take all possible precautions to protect themselves, others and equipment against the hazards of the abrasive blasting operation.
- g. Spray painting will only be allowed with prior approval by the Supervisor in charge.
 - 1. A hot work permit is required before abrasive blasting in any process location except in areas are that designated as non-hazardous abrasive blasting areas.

68.5.2 Abrasive Blasting Precautions

- a. Spent abrasive blasting agents are to be removed from work area in such a way to avoid dust; e.g., vacuum pickup or wetting down and shoveling.
 - 1. Disposal of spent abrasive is to be coordinated by the company and/or client(s) Safety and Environmental group.
- b. All painted surfaces shall be tested for lead prior to blasting.
 - 1. If painted surfaces are found to contain lead refer to the company procedure for lead.
- c. Organic abrasives which are combustible shall be used only in

automatic systems. Where flammable or explosive dust mixtures may be present, the construction of the equipment, including the exhaust system and all electric wiring, shall conform to the requirements of American National Standard Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying, Z33.1-1961 (NFPA 91-1961), and Subpart S of this part. The blast nozzle shall be bonded and grounded to prevent the build up of static charges. Where flammable or explosive dust mixtures may be present, the abrasive blasting enclosure, the ducts, and the dust collector shall be constructed with loose panels or explosion venting areas, located on sides away from any occupied area, to provide for pressure relief in case of explosion, following the principles set forth in the National Fire Protection Association Explosion venting Guide. NFPA 68-1954.

68.5.3 Signs

Warning signs shall be posted in conspicuous locations to warn employees and visitors to the worksite about the hazards associated with exposure to silica.

- a. The blasting should be done in a specified zone, where dust is visible, and the area roped off with posted signs.
 - 1. The signs should read "Caution - Sandblasting and Painting in Area"
 - 2. The signs shall also specify the proper personal protective equipment (PPE) required in these areas.

68.5.4 Silicosis

All employees that operate sandblasting equipment and company workers subject to silica exposure shall be trained and provided information about the adverse health effects, safe work practices, Hazard Communication and the proper use and care of all personal protective equipment (PPE).

- a. All cases of silicosis shall be reported to the State Department of Health and to the Occupational Safety and Health Administration (OSHA) within five (5) days of diagnosis.
- b. Silicosis is characterized by the shortness of breath, fever and bluish colored skin.
 1. It could be diagnosed as pulmonary edema (fluid in the lungs), pneumonia or tuberculosis.
 2. Silica dust can cause severe fungal infections to develop.
 3. This condition could be fatal.
- c. There are three (3) types of silicosis.
 1. Acute
 - i. Exposure to extremely high concentrations can cause symptoms to develop within weeks to months.
 2. Chronic
 - i. Exposure for 10 years to low concentrations of silica dust can cause signs and symptoms to occur.
 3. Accelerated
 - i. Exposure to high concentrations for 5 - 10 years after initial exposure.
- d. If a practical substitute, with less health hazard than silica sand, can be found it should be used.
 1. However, substitute with caution.

- e. Expensive silica and substitutes are re-used and an accumulation of toxic dusts from paints and coatings may present additional hazards.

68.5.5 Medical Surveillance

All workers exposed to crystalline silica shall be subject to a medical surveillance program and medical examinations.

- a. Such examinations shall occur prior to job placement and at least every 3 years thereafter.
- b. More frequent examinations may be required for workers who are at risk, such as those with acute or accelerated silicosis.
- c. Medical examinations shall include at least the following items:
 - 1. A complete medical and occupational history of the employee
 - 2. Chest x - rays
 - 3. Pulmonary functions testing
 - 4. Annual tuberculosis evaluation

68.5.6 Personal Hygiene Methods

Employees working as sandblasters should use personal hygiene methods as often as possible.

- a. A change shack, or other dust free area, should be provided for breaks and changing.
- b. Prior to leaving the worksite, employees shall either decontaminate their clothes or change into clean clothes.
- c. Adequate hand washing facilities must be provided with paint removing products.
- d. All sandblasters should wash their face and hands before eating, drinking, or smoking.

- e. There should be no eating, drinking or smoking in the sandblasting area.
- f. Workers should shower prior to leaving the worksite.
- g. Vehicles should not be parked in contaminated areas.

68.5.7 Engineering Control Methods

Air monitoring must be performed to measure worker exposure to air borne crystalline silica and to provide a basis for selecting engineering controls.

- a. Engineering control methods shall be used to decrease exposure to silica dust.
- b. Some of these include:
 - 1. Use of alternate blasting media.
 - 2. Containment methods such as blast cleaning machines.
 - 3. Cabinets.
 - 4. Blasting rooms.
 - 5. Portable equipment.
- c. Whenever hazardous substances such as dusts, fumes, mists, vapors, or gases exist or are produced in the course of construction work, their concentrations shall not exceed the limits specified in 1926.55(a). When ventilation is used as an engineering control method, the system shall be installed and operated according to the requirements of this section.
- d. Dust shall not be permitted to accumulate on the floor or on ledges outside of an abrasive-blasting enclosure, and dust spills shall be cleaned up promptly. Aisles and walkways shall be kept clear of steel shot or similar abrasive which may create a slipping hazard.
- e. If engineering controls cannot keep silica exposures below the NIOSH PEL respiratory protection must be used.

68.5.8 Personal Protective Equipment (PPE)

Respirators and blasting hoods are NIOSH/MSHA approved and used in accordance with the manufacturer's specification and 29 CFR 1910.134.

- a. Breathing air systems must meet the requirements of 29 CFR 1910.134.
- b. Equipment for protection of the eyes and face shall be supplied and utilized when the respirator design does not provide such protection and to any other personnel working in the vicinity of abrasive blasting operations. This equipment shall conform to the requirements of 1926.102.
- c. Where employees are exposed only to the dust hazard, goggles and a proper respirator will provide adequate protection.
- d. Eye wash bottles or stations will be made readily available at all blasting and painting locations.
- e. The operator required to wear hearing protection.
- f. In confined places where another employee is within range and exposed to the sand jet, he/she shall wear the full sandblaster's outfit.
- g. Sandblasters shall wear only approved sandblasting helmets with air-flow control valves and air filters approved for such use.
- h. When blasting and/or painting operations require personnel to work over 6" above ground or deck level proper Fall Protection equipment and procedures will be used.
- i. Workers should change into disposable or washable work clothes at the worksite.

1. The employer shall furnish at no charge disposable work clothes (tyvek, etc.) for employees to wear while at the worksite.
- j. Workers should change into clean clothing before leaving the worksite.

68.5.9 Breathing Air Quality and Use

Waveland Services, Inc. will provide employees using atmosphere-supplying respirators (supplied-air and SCBA) with only D quality breathing air. Air for abrasive-blasting respirators must be free of harmful quantities of dusts, mists, or noxious gases, and must meet the requirements for supplied-air quality and use specified in 29 CFR 1910.134(i).

- a. Waveland Services, Inc. will ensure that compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration accords with the following specifications:
 1. Compressed and liquid oxygen shall meet the United States Pharmacopoeia requirements for medical or breathing oxygen.
 2. Compressed breathing air shall meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:
 - i. Oxygen content (v/v) of 19.5-23.5%
 - ii. Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less
 - iii. Carbon monoxide (CO) content of 10 ppm or less.
 - iv. Carbon dioxide content of 1,000 ppm or less

- v. Lack of noticeable odor.
- b. That compressed oxygen is not used in atmosphere-supplying respirators that have previously used compressed air.
- c. That oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution.
- d. That cylinders used to supply breathing air to respirators meet the following requirements:
 - 1. That cylinders are tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 173 and part 178).
 - 2. That cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air.
 - 3. That the moisture content in the cylinder does not exceed a dew point of -50 deg.F (-45.6 deg.C) at 1 atmosphere pressure.
 - 4. Waveland Services, Inc. will ensure that compressors used to supply breathing air to respirators are constructed and situated so as to:
 - i. In a clean atmosphere to prevent entry of contaminated air into the air-supply system.
 - ii. Minimize moisture content so that the dew point at 1 atmosphere pressure is 10 degrees F (5.56 deg.C) below the ambient temperature.
 - iii. Have suitable in-line air-purifying sorbent beds and filters to further ensure breathing air quality.
 - iv. Sorbent beds and filters shall be maintained and

replaced or refurbished periodically following the manufacturer's instructions.

- e. Have a tag containing the most recent change date and the signature of the person authorized by the employer to perform the change.
 - 1. The tag shall be maintained at the compressor.
- f. For compressors that are not oil-lubricated Waveland Services, Inc. will ensure that carbon monoxide levels in the breathing air do not exceed 10 ppm.
- g. For oil-lubricated compressors, Waveland Services, Inc. will use a high-temperature or carbon monoxide alarm, or both, to monitor carbon monoxide levels.
 - 1. If only high-temperature alarms are used, the air supply shall be monitored frequently to prevent carbon monoxide in the breathing air from exceeding 10 ppm.
- h. Fittings will be incompatible for non-respirable gases and containers.

68.5.10 Filter Changes

Conditions play a large part in the life of any filter/ cartridge such as humidity, environment, work location (Up-wind/down-wind), etc.

- a. These Operating Time Lines are more than adequate to protect the user.

Unit Type	Replacement Time Line
1. Air Line Filter (Bullard 41 Series Model 41 P-2)	Monthly Basis
(Note: If there is no sticker with the last change date on the unit change the filter.)	
2. Organic Vapors /Acid Gases/P100	40 Paint Hours
3. Organic Vapors Cartridge	40 Paint Hours
4. Particulate Prefilter N95	Visual Inspection
5. Blasting (Hood Bullard 88 Series Respirator)	Air Supplied

68.5.11 Equipment

Abrasive blast cleaning nozzles. The blast cleaning nozzles shall be equipped with an operating valve which must be held open manually. A support shall be provided on which the nozzle may be mounted when it is not in use.

Blasting nozzles are equipped with dead-man controls to enable the operator start and stop the blasting with one hand.

- a. This will assure positive shut off, and at no time should the dead-man control be taped or wired open.
- b. Pressure pots must meet ASME code requirements.
- c. Machines and hoses must be inspected daily and replaced immediately upon signs of excessive wear.
- d. Abrasive blasting equipment, the blasting nozzle, and the object being blasted are grounded.
- e. All hose couplings shall be wired together to prevent de-coupling.
- f. Machines and hoses should be inspected weekly, and all parts showing excessive wear should be replaced.

- g. When blasting and painting operations required the use of scaffolding proper procedures will be used.
- h. The sandblasting operator must be supplied with a fresh air hood designed for sandblasting operations and:
 - 1. Be equipped with a vortex cooling tube.
 - 2. Have no visible dust leaks.
- i. All compressors will be equipped with high oil temperature/high CO level alarm if it will be used to supply Grade D breathing air.
- j. The air supply must meet all the Grade D requirements, and testing criteria, of the OSHA regulation 29 CFR 1910.134 or ANSI Z-88.
- k. Never attempt to adjust the nozzle while the abrasive is flowing.
- l. All air lines supplying air to workmen wearing positive pressure air hoods should be equipped with proper air filters.
 - 1. The filter contents should be checked regularly.

68.5.12 Compressed Air

Compressed air used for cleaning. Compressed air shall not be used for cleaning purposes except where reduced to less than 30 p.s.i. and then only with effective chip guarding and personal protective equipment.

68.5.13 Hydroblasting

Hydroblasting will not be done inside vessels, tanks, drums, towers, or other

confined spaces.

- a. Hydroblasting outside of confined spaces will be reviewed before each job to determine that proper equipment is being used and that the personnel working with the equipment are properly trained.
- b. The area around the operations should be well defined and barricaded a sufficient distance away from the operation to prevent injury or exposure to other working in the vicinity.
- c. All hydroblasting operations require the operator to be in control of the pressure by-pass or "Deadman Switch".
 1. Under no circumstances should the trigger or pressure valve be mechanically locked in the "on" position.

68.5.14 Spray Painting

Employees using paint spray guns or painting materials which require respirators shall wear respirators with organic vapor cartridges or other approved respiratory protection as required by the manufacturer of the product being used.

- a. No spray painting will be permitted in the presence of open flames such as acetylene torches, gas burner, welding operations, heaters etc.
- b. Paint solvents may only be used as a paint thinner and cleaner of painting equipment.
 1. They may not be used for personal hygiene.
- c. No coatings containing heavy metals (lead, chromate, etc.,) or cleaners containing methylene chloride will be used by the company.
- d. Do not attempt to clean spray tip by passing fingers over the nozzle with the trigger open.
- e. Avoid skin contact with solvents and paint thinners.

- f. Air movers should be installed when painting or blasting in poor ventilating areas.
- g. Good Housekeeping is essential to prevent slips, trips and falls.
- h. When using paint requiring thinners, have adequate ventilation.
 - 1. If you feel drowsy, nauseated or dizzy, stop work and get some fresh air.
 - 2. If the feeling persists beyond an hour, see the Supervisor.
 - 3. Exercise strict safety rules for all paints unless labeled non-toxic.
- i. Be extremely cautious when using water solvent paint around electrical outlets or electrical units.

68.6 Training Requirements

68.6.1 All Personnel will be trained on the following topics:

- a. Hazard Communication
- b. Respiratory Protection
- c. LO/TO
- d. Hearing Protection
- e. Basic Fire Fighting
- f. Proper Lifting.
- g. Scaffolding and Ladder Safety.
- h. Emergency Response
- i. Contents of this procedure.

68.6.2 An adequate number of personnel will be trained on the following topics:

- a. Basic First Aid.
- b. CPR.

68.7 Training Frequency

68.7.1 Personnel will be trained according to the following schedule:

- a. Initially upon hire.
- b. Yearly thereafter.

Section 79.0

LEAD

79.1 Purpose

The purpose of this procedure is to provide guidance to Waveland Services, Inc. personnel on the potential hazards associated with lead, and to identify occupational settings where this material can be encountered.

79.1.1 Waveland Services, Inc. has developed and implemented the following to protect their employees and the general public from the possible occupational exposure to lead and comply with OSHA 29 CFR 1910.1025.

79.1.2 This procedure establishes Company expectations for employees who work at locations where, or the potential of, lead is present, thereby eliminating any potential threat to employee health.

a. Properly implemented it will:

1. Establish Company expectations for employees who work at locations where lead containing materials are or may be present.
2. Aid in complying with OSHA 29 CFR 1910.1025, or other federal, state, and local regulations.
3. Help eliminate any potential threat to employee health.

79.2 Scope

This procedure applies to all company personnel working at company or client premises where lead or lead-containing materials could cause a potential health threat.

79.3 Responsibilities

79.3.1 The President or his designee responsible for ensuring that employees have completed the training required by this procedure.

a. Additional responsibilities include:

1. The implementation of this Policy.
2. Documentation of completion by each employee.
3. Take corrective actions on all violations or suspected violations of this procedure.
4. Ensuring that this procedure is followed in work done at a client's or company location.
5. Ensuring that proper records are maintained on all work performed where lead is present.
6. For reviewing and revising the procedure as required.

79.3.2 The Safety Director is responsible for aiding in the implementation of this Procedure.

a. Additional responsibilities include:

1. Keeping the president informed of any incidents related to this Procedure.
2. Providing appropriate safety equipment to company personnel.
3. Investigating all employee concerns regarding lead on company or client's premises.
4. Reviewing current technical information available on lead.
5. Maintaining medical surveillance records on personnel working with lead.
 - i. The Assistant Secretary of Labor, affected

employees and designated employees' representatives shall have access to this program.

6. Investigating all employee concerns regarding lead on company or client premises.
7. Informing the President of any suspected or newly identified sources of lead at company or client's premises.

79.3.3 The Supervisor is responsible for providing assistance in the implementation of this policy.

a. Additional responsibilities include:

1. Informing the Safety Director of any incidents involving lead.
2. Check with the client and/or test any areas where there may be lead exposure to company personnel.
3. Informing the Safety Director of any suspected or newly identified sources of lead at company or client's premises.
4. Ensuring that all employees are informed of any suspected or newly identified sources of lead on the company or client's premises.
5. Making suggestions to management for ways to improve this Policy.
6. Adhering to the rules and guidelines in this procedure.

79.3.4 Company personnel are responsible for recognizing and anticipating all job hazards that could involve the exposure of lead to company personnel, client personnel, the general public or impact the environment.

a. Additional responsibilities include

1. Completing the training required by this procedure.
2. Adhering to the rules and guidelines in this procedure.

3. Reporting to their supervisor any suspected or newly identified sources of lead on company or client's premises.

79.4 Procedure

79.4.1 Introduction

Lead is a poisonous, bluish white, metallic element used mostly in combination with other materials and found in pipes, cable sheaths, batteries, paint, gasoline, and solder.

79.4.2 Company personnel can be required to work at customer sites where lead is present.

- a. However, their potential for exposure can be drastically reduced if the proper procedures are followed.

79.4.3 History of Lead

The earliest use of lead was by the ancient Egyptians.

- a. It was used to give a "shine" coating to their pottery.
- b. The Romans actually made cooking utensils from lead, and designed the first plumbing system to carry drinking water.
 1. The Romans called lead "plumbus", that's where we get the word "plumber".

79.4.4 Today, nearly every time you turn around, you encounter lead.

- a. Until recently, you could even find lead in gasoline, but because it contributed to air pollution, it was phased out.
- b. Lead is still used in many applications including:
 1. Batteries

2. Electrical cables
3. Solder
4. Bearings for machinery
5. Bullets
6. Fishing weights

79.4.5 The primary concern for our industry is lead containing coatings, and the removal of these coatings from existing piping and structures.

79.4.6 Pure lead is a heavy metal and it can be combined with various other substances to form numerous lead compounds found in the following:

- a. Printer ink
- b. Dyes
- c. Explosives
- d. Medicines
- e. Insecticides
- f. Plastics
- g. Paints

79.4.7 **Health Hazards**

In certain doses, lead can be a toxic substance when absorbed into your body.

- a. The object of the lead standard and this training program is to provide you with the information necessary to prevent absorption of harmful quantities of lead into your body.
- b. Typical work activities which may generate lead exposure:
 1. Welding
 2. Buffing
 3. Grinding
 4. Torch cutting

5. Needle gun chipping
6. Sand blasting on coated surfaces
- c. Lead can enter the body by:
 1. **Inhalation** (breathing) - When lead is scattered into the air as a dust, fume, or mist, (i.e., grinding or sandblasting), it can be inhaled and absorbed through the lungs and upper respiratory tract.
 2. **Ingestion** (eating) - Ingestion of lead can also occur if you handle food, smoke cigarettes, chew tobacco, etc., in areas which contain airborne lead.

79.4.8 Lead Poisoning

- a. Lead poisoning is a reality and is serious.
- b. Lead fumes are created by welding or cutting metal structures that have been painted with lead coatings.
- c. Lead dust is also created when you grind or sandblast a surface.
- d. Knowing how to avoid exposure to lead can help protect you.
- e. How much lead is too much?
- f. OSHA has set a national standard for industry.
 1. Action level means employee exposure, without the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air (30 ug/m³) averaged over an 8 hour period.
 2. Permissible exposure limit.
 3. The employer shall assure that no employee is exposed to lead at concentrations greater than 50 micrograms per cubic meter of air (50 ug/m³) averaged over an 8 hour period.
- g. Symptoms of over exposure are:

1. Headaches
 2. Fatigue
 3. Anemia
 4. Irritability
 5. Constipation
 6. Muscle and joint pain
 7. Stomach cramps
- h. Lead can also damage the nervous system causing numbness, slowness, and intense irritability.
1. Long term exposure can cause kidney damage with few symptoms appearing until extensive damage has been done.
- i. Lead poisoning can affect the reproductive system of both men and women.
- j. The human body is constantly removing wastes, including lead.
- k. When exposed below the PEL, the body can eliminate this level of lead with no side effects.
- l. Continued exposure above the PEL , however will prevent the body from eliminating the lead to a safe level.

79.5 Procedure

79.5.1 Company personnel may be required to work at customer sites where lead is present.

79.5.2 OSHA 29 CFR 1910.1025 mandates that companies that have any job sites where employees may be exposed to lead must establish, implement, and make available, a written site specific compliance plan that will reduce exposures to or below the permissible limits..

79.5.3 In most cases Waveland Services, Inc. personnel will be working under the client's compliance program.

- a. In the event that the client does not implement a Lead Compliance Program the following procedures will be used.

79.5.4 **Waveland Services, Inc. personnel will not knowingly work in an area where they have the potential for lead exposure.**

79.5.5 In most cases the exposures can be reduced to or below the PEL, and interim levels if applicable, solely by means of engineering and work practice controls.

79.5.6 Written plans for compliance programs shall include at least the following:

- a. A description of each operation in which lead is emitted.
 - 1. Machinery used
 - 2. Material used
 - 3. Material processed
 - 4. Controls in place
 - 5. Crew size
 - 6. Employee job responsibilities
 - 7. Operating procedures
 - 8. Maintenance practices
- b. A description of the specific means that will be employed to achieve compliance will be thoroughly outlined.
 - 1. Including engineering and work practice controls.
- c. A report of the technology considered in meeting the permissible exposure limit. (P E L)
- d. Air monitoring data which documents the source of lead emissions.
- e. A detailed schedule for implementation of the program.

- f. This documentation should include such items as copies of purchase orders for equipment, construction contracts, etc.
 - 1. A work practice program.
 - 2. An administrative control.
 - 3. Other relevant information.

79.5.7 Written compliance programs shall be submitted upon request to the Assistant Secretary of Labor and any other relevant local, state, or federal officials, and shall be available at the worksite for examination and copying by these officials or any affected employee or authorized employee representatives.

79.5.8 Written compliance programs shall be revised and updated at least every six (6) months to reflect the current status of the program.

79.5.9 Exposure Monitoring

No employee will be exposure to lead concentrations greater than the 50 micrograms per cubic meter of air average over a 8 hour period.

- a. This restriction will be accomplished by implementing an airborne exposure monitoring plan.
- b. If airborne lead is found to be present in areas where you work, or your activities (ie, grinding, sandblasting, etc.) may generate airborne lead, an initial determination of whether the action level might be exceeded will be made.
- c. The initial determination will include instrument monitoring of the area for the presence of lead as well as the exposure monitoring of a representative number of employees, who are reasonably expected to have the highest exposure levels.
 - 1. This breathing zone air monitoring will be done with industrial hygiene measurements and will determine

employee exposures.

- d. Employee exposure is that exposure which would occur if the employee were not using a respirator.
- e. The employee shall collect full shift (for at least seven (7) continuous hours) personal samples, including at least one sample for each shift for each job classification in each work area.
- f. Full shift samples shall be representative of the monitored employee's regular, daily exposure to lead.
- g. If the initial monitoring reveals employee exposure to be below the action level, the measurements need not be repeated except whenever there has been a production, process, control, or personnel change, which may result in new or additional exposure to lead, or whenever a client or your company has any other reason to suspect a change which may result in new or additional exposures to lead, additional monitoring will be conducted.
- h. If initial determination or subsequent monitoring reveals employee exposure to be at or above the action level, but not below the permissible exposure limit, monitoring will be repeated at least every 6 months.
- i. The Client/Company shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least 7 days apart, are below the action level.
- j. Once below the action level the Client/Company will discontinue monitoring for that employee.
- k. If the initial monitoring reveals that employees exposure is above the permissible exposure limit the Client/Company shall repeat the monitoring quarterly.
- l. The Client/Company shall continue monitoring at the required frequency until at least two consecutive measurements, taken 7

days apart, are below the PEL, but at, or above, the action level, at which time the Client/Company shall repeat monitoring for that employee at the required frequency.

- m. Within 5 working days after the receipt of monitoring results, the Client/Company shall notify each employee in writing of the results which represent that employee's exposure.

79.5.10 Whenever the results indicate that the representative employee exposure, without regard to respirators, exceeds the permissible exposure limit, the Client/Company shall include in the written notice, a statement that the permissible exposure limit was exceeded and the corrective action taken, or to be taken, to reduce exposure to, or below, the permissible exposure limit.

- a. This can be done by the use of engineering controls and the use of proper PPE to reduce employee exposures.

79.5.11 Where any employee is exposed to lead above the permissible exposure limit for more than 30 days per year, the Client/Company shall implement engineering and work practice controls (including administrative controls) to reduce and maintain employee exposure to, or below, the permissible exposure of lead.

- a. If such controls are not feasible, the reasons will be demonstrated and documented.
- b. If engineering and work practice controls do not reduce exposure to acceptable limits the Client/Company will use respirators as a supplementary means of action.

79.5.12 **Respiratory Protection**

Where engineering and work practice controls do not reduce employee exposure to or below the 50 ug/ml permissible exposure limit (PEL), the

Client/Company shall supplement these controls with powered, air purifying respirators.

- a. Where the use of respirators are required, the Client/Company will:
 - 1. Provide them, at no cost, to the employee.
 - 2. Assure the use of respirators which comply with all applicable federal, state, and local regulations.
- b. Respirators shall be used in the following circumstances:
 - 1. During the time period necessary to install or implement engineering or work practice controls.
 - 2. In work situations in which engineering and work practice controls are not sufficient to reduce exposures to, or below, the permissible exposure limit (PEL).
 - 3. Whenever an employee requests a respirator.

79.5.13 Respirator Selection

Where respirators are required the Client/Company shall select the appropriate respirator or combination of respirators from applicable sources.

- a. The Client/Company shall provide a powered air-purifying respirator (PAPR) in lieu of specified respirator(s) whenever:
 - 1. An employee chooses to use this type of respirator.
 - 2. This respirator will provide adequate protection to the employee.
- b. The Client/Company shall select respirators from among those approved for protection against lead dust, fumes, and mist by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.

79.5.14 Respirator Usage

- a. The Client/Company shall assure that the respirator issued to the employee exhibits minimum facepiece leakage and that the respirator is fitted properly.
- b. The Client/Company shall perform either quantitative or qualitative face fit tests at the time of initial fitting and at least every six (6) months thereafter for each employee wearing negative pressure respirators.

79.5.15 Respirator Program

The Client/Company shall institute a respiratory protection program in accordance with 29 CFR 1910.134 (b), (d), (e) and (f).

- a. The Client/Company shall permit each employee who uses a filter respirator to change the filter elements whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.
- b. Employees who wear respirators shall be permitted to leave work areas to wash their face and respirator facepiece whenever necessary to prevent skin irritation associated with respirator use.
- c. The Client/Company shall provide, at no cost to the employee, and assure the use of respirators which comply with all applicable federal, state, and local regulations.
- d. All respirators used for protection against lead dust, fumes, and mist must be of the types approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.
- e. An employee may choose this type of respirator at no extra cost to himself.
- f. Respirators shall be used during the time period necessary to install

or implement engineering or work practice controls.

79.5.16 Personal Protective Equipment

The Client/Company will provide employees the proper personal protective equipment, at no cost, when the possibility of lead exposure exists.

- a. The proper personal protective equipment shall consist of, but not be limited to, the following:
 - 1. Gloves
 - 2. Hard hats
 - 3. Vented goggles
 - 4. Steel - toed shoes or boots
 - 5. Disposable shoe covers
- b. Protective clothing shall be kept in a clean and dry condition and changed daily or as needed.
- c. Protective clothing shall be cleaned, laundered, properly disposed, and repaired or replaced as necessary.

79.5.17 Medical Surveillance

The Client/Company shall:

- a. Institute a medical surveillance program for all employees who are, or may be, exposed above the action level for more than 30 days per year.
- b. Assure that all medical examinations and procedures are performed by, or under the supervision of, a licensed physician.
- c. Provide the required medical surveillance including multiple physician review, without cost to employees, and at a reasonable time and place

79.5.18 Blood Lead Levels, Monitoring, and Employee Notification

Blood lead sampling and monitoring shall be conducted at initial assignment and at least every six (6) months until two consecutive blood samples and analyses are acceptable.

- a. Blood sampling and monitoring activities shall be performed at least monthly during the abatement and removal period.
- b. Any employee(s) with elevated blood lead levels shall be temporarily removed from the job.
- c. Employees shall be notified in writing within five (5) days when blood lead levels are not acceptable.
- d. This will be done with Medical Removal benefits as per the standard.

79.5.19 Recordkeeping

The Client/Company shall establish and maintain an accurate record of all monitoring for each employee.

- a. This record shall include:
 1. The date(s), number, duration, location and results of each of the samples taken, including a description of the sampling procedure used, to determine representative employee exposure where applicable.
 2. A description of the sampling and analytical methods used and evidence of their accuracy.
 3. The type of respiratory protective devices.
 4. Name, social security number, and job classification of the employee monitored, and of all employees whose exposure the measurement was intended to represent.
 5. The environmental variables that could affect the measurement of employee exposure.
- b. The Client/Company shall maintain these monitoring records for at

least 40 years, or for the duration of employment plus 20 years, whichever is longer.

79.5.20 Decontamination, Changing and Hygiene Facilities

- a. The Client/Company shall provide change rooms, showers, and filtered air lunchrooms to workers exposed to lead at concentrations above the PEL.
- b. When the PEL is exceeded, the Client/Company will assure that food and beverages are not present or consumed, tobacco products are not present or used, and cosmetics are not applied, except in these facilities.
- c. After showering, no clothing or equipment worn during the shift may be worn home, and this includes shoes and underwear.
- d. Lunchrooms may not be entered with protective clothing or equipment unless surface dust has been removed by vacuuming, downdraft booth, or other cleaning method.

79.5.21 Operations Where Lead May Be Encountered

The potential for company personnel to be exposed to lead is most likely to occur as a result of lead-based paint removal.

- a. Tiny particles of chipped paint can be generated during this activity creating an airborne lead hazard.
- b. Company personnel can encounter lead in the following situations:
 - 1. Peeling, flaking, or chipped paint.
 - 2. Blasting removal of old paint.

79.5.22 Any employee assigned work in an area with a potential for exposure above the permissible exposure level (PEL) to airborne lead, will be provided with additional comprehensive training prior to performing work.

- a. The elements include:
 - 1. Special clothing
 - 2. Change rooms
 - 3. Special washing facilities
 - 4. Respiratory protection
 - 5. Medical Surveillance

79.5.23 Signs

Signs are required to be illuminated and cleaned as necessary so that the legend is readily visible.

- a. No statement can appear on, or near, any sign which contradicts or detracts from the meaning of the required sign.
- b. The OSHA standard requires that the following warning sign be posted in work areas where the exposure to lead exceeds the PEL:
- c. The signs shall not be removed or defaced.

WARNING

LEAD WORK AREA

POISON

NO SMOKING OR EATING

79.5.24 Summary of Lead Work Practices

When working in an area where lead abatement, removal, or repair is being conducted, company personnel must evacuate the area.

- a. If observed tasks are being conducted in a manner inconsistent with proper work practices, company personnel should notify the Client

and Safety Director.

- b. The table below summarizes what to observe when evaluating an asbestos work area for potential hazards.

Proper Method	Improper Method
Work areas are posted with appropriate lead warning signs.	No lead warning signs are present.
Lead paint is being removed using wet methods.	Lead paint is being removed, scraped or blasted while dry.
Compressed air removal systems have ventilation to contain all generated dust.	Compressed air is being used to remove lead paint with no containment ventilation.
Removal work is conducted in a glovebag or other well-constructed containment.	Removal is not contained, being conducted in open air.
Lead waste is thoroughly cleaned up and disposed of in sturdy disposal bags/containers.	Lead waste is left in the work area, disposed of in regular trash.

- c. The best way to prevent all forms of lead related impairments and diseases, both short and long term, is to prevent over exposure to lead.
- d. The company has the prime responsibility to assure that the requirements of the standard are complied with.
- e. You as an employee also have a responsibility to assist in compliance.
- f. You can play a key role in protecting your own health by learning about lead hazards and their control, and following safe work practices concerning your job.

79.6 Training Requirements

- 79.6.1 When there is a potential exposure to airborne lead in the workplace at any level, the company shall inform employees of the content of Appendices A

and B of OSHA regulation 29 CFR 1910.1025 and institute a training program.

79.6.2 They will assure the participation of all employees who are subject to lead exposure at, or above, the action level or for whom the possibility of skin or eye irritation exists.

79.6.3 Company personnel must be trained:

- a. Contents of this standard and its appendices
- b. To an awareness level on lead.
- c. In the locations where lead can be encountered in the workplace.
- d. Symptoms of lead exposure including:
 - 1. Loss of appetite
 - 2. Headache or dizziness
 - 3. Metallic taste in mouth
 - 4. Muscle or joint pain
 - 5. Numbness
 - 6. Hyperactivity or insomnia
- e. Health effects of lead exposure:
 - 1. Acute
 - i. Encephalopathy
 - ii. Seizures
 - iii. Coma
 - iv. Death
 - 2. Chronic
 - i. Damage to brain tissue, reproductive system, urinary tract, and the nervous system.
- f. The employee's right of access to records under 29 CFR 1910.20
- g. Proper work practices for lead removal.

- h. The specific nature of the operations which could result in exposure to lead above the action level.
- i. The purpose, proper selection, fitting, use, and limitations of respirators.
- j. The purpose and a description of the medical surveillance program, and the medical removal protection program, including information concerning the adverse health effects associated with excessive exposure to lead (with particular attention to the adverse reproductive effects on both males and females).
- k. The engineering controls and work practices associated with the employee's job assignment.
- l. The contents of any compliance plan in effect.
- m. Instructions to employees that chelating agents should not routinely be used to remove lead from their bodies and should not be used at all except under the direction of a licensed physician.
- n. The contents of this procedure.

79.7 Training Frequency

79.7.1 Company personnel will be trained according to the following schedule:

- a. Prior to initial job assignment.
- b. Annually thereafter

Section 90.0
ENVIRONMENTAL AWARENESS

90.1 Purpose

The purpose of this procedure is to provide an overview of environmental awareness issues, and establish an environmental protection program for Waveland Services, Inc. personnel at work and home.

90.2 Scope

This procedure applies to all company jobs and work activities.

90.2.1 The local environment can be negatively impacted if safe work practices or procedures are not followed.

90.3 Responsibilities

90.3.1 The President or his designee is responsible for ensuring that employees have completed the training required by this procedure.

a. Additional responsibilities include:

1. Ensuring that employees have been properly trained.
2. The implementation of this Policy.
3. Take corrective actions on all violations or suspected violations of this procedure.
4. Documentation of completion by each employee.

90.3.2 The Safety Director is responsible for aiding in the implementation of this Procedure.

a. Additional responsibilities include:

1. Keeping the president informed of any incidents related to this Procedure.
2. Conducting inspections to identify any violation of this Policy.

90.3.3 The supervisor in charge of each crew is responsible for taking reasonable care to protect the environment, while conducting their work activities according to the requirements in this procedure.

a. Additional responsibilities include:

1. Pre-job and daily inspections of the work area and written confirmation that conditions are safe.
2. Ensure that all affected company personnel have been made aware of the company environmental procedures.
3. Ensure that all employees follow the procedures in this policy.
4. Report any environmental incidents to the President.

90.3.4 Company personnel are responsible for understanding the contents of this procedure.

a. Additional responsibilities include:

1. Completing the required training on this Policy.
2. Implementing the training on this Policy.
3. Recognizing hazards that could impact the Company Environmental Policy.

90.4 Procedure

90.4.1 Hazardous Materials

A hazardous material is any material that because of its quantity, concentration, and physical or chemical characteristics, poses a present or potential hazard to human health and safety if released into the environment. (x-ref Hazardous Waste and Emergency Response First Responder)

- a. To ensure that materials or chemicals are handled properly, it is important to review the Material Safety Data Sheet (MSDS) of each chemical or material.
- b. An MSDS (x-ref Hazard Communication) provides the following critical information:
 - 1. Chemical Composition
 - 2. Fire and Explosive Data
 - 3. Health Hazard Data
 - 4. Spill and Leak Procedure
 - 5. Special Precaution Information
 - 6. Special Protection Information
 - 7. Reactivity Data
 - 8. Manufacturer's Name and Address
- c. A packet of MSDS's is shipped with all equipment.
- d. MSDS's can also be accessed the following ways:
 - 1. On-line via the Company Internet.
 - 2. Calling the Tech Center help desk.
 - 3. Contacting the Environmental Affairs department

90.4.2 Household Hazardous Materials

Today hazardous materials can be found in almost every home and come in many forms including cleaners, automotive products, paints, solvents, and pesticides.

- a. Any household product labeled WARNING, CAUTION, POISONOUS, TOXIC FLAMMABLE, CORROSIVE, REACTIVE, or

EXPLOSIVE is considered hazardous waste.

- b. Every day people unknowingly threaten the environment by disposing tons of household hazardous waste through regular trash or garbage collection or sewer/storm drains.
- c. When improperly disposed, these products can do environmental harm by polluting the air, water, and/or soil.
- d. Leftover and unused portions of household hazardous materials should never be thrown in the trash or poured down the drain.
- e. Instead, use as much of the material as possible, carefully following label directions, or ask others if they could use the remaining portions.
- f. Household hazardous wastes can also be taken to a community collection center.
- g. When shopping for, using, or storing household products, keep the following in mind:
 - 1. Buy only what you need.
 - 2. Choose the least toxic product.
 - 3. Select water based products over solvent based products.
 - 4. Avoid aerosol sprays.
 - 5. Do Not mix cleaning products containing chlorine with ammonia or acid-based cleaners.
 - 6. Make sure containers are tightly sealed and upright.
 - 7. Keep toxic materials in their original containers and out of reach of children.

90.4.3 Hazardous Waste

Hazardous waste is material that is either no longer wanted or fit for its intended purpose.

- a. A waste is defined as hazardous if it has one or more of the

following characteristics:

1. Ignitable
2. Corrosive
3. Reactive
4. Toxic

b. The results of hazardous waste mismanagement can be significant.

Hazardous waste can cause harm by:

1. Leaching into ground water from improperly designed sites.
2. Contaminating drinking water of public and private wells and springs.
3. Running off into surface water, contaminating lakes and affecting aquatic life, drinking water, and recreation.
4. Causing human, animal, and plant poisoning by direct contact.
5. Contaminating the soil, making it unfit for farming or habitation.
6. Polluting the air, making it unfit to breathe.

c. There are laws that collectively deal with various types of waste, that are hazardous to human health and the environment.

d. Company hazardous waste is accumulated in properly labeled containers which are kept closed, except when adding waste.

e. The Company follows applicable standards for hazardous waste regarding:

1. Testing
2. Labeling
3. Storage
4. Packaging

f. When hazardous waste is shipped off-site, an approved facility is

identified, a transporter is contracted to transport the waste, and a manifest system is initiated to accompany the waste to ensure it reaches its destination.

- g. In this way, the Company utilizes “cradle-to-grave” management of hazardous waste and ensures that wastes are properly handled from the point of generation to the final recycle, treatment, or disposal facility.
- h. Whenever possible, recycling and reuse of hazardous waste is implemented.

90.4.4 Hazardous Waste Minimization

Newer regulations limiting land disposal of hazardous waste has made it more essential and economically prudent than ever, to reduce the amount of hazardous waste generated.

- a. There are three basic approaches that can be taken to reduce hazardous waste:
 - 1. Improved Operating Practices.
 - i. This is also known as good housekeeping practice.
 - ii. It is the least costly and easiest method in hazardous waste reduction.
 - iii. When hazardous materials are spilled, mixed with other hazardous materials, or become too old to use, they are considered hazardous waste.
 - iv. These wastes can be avoided by good inventory control to avoid overstocking, by using the “first-in”, “first-out” rule and segregating different wastes by types to avoid mixing with non-hazardous waste with hazardous waste.

- v. Preventing spills and leaks by keeping containers covered, performing regular inspections of containers, and using pumps or spigots to dispense materials.
 - i. Containing spills that may occur installing sloped floors and curbs or beams in storage areas.
- 2. Material Substitution.
 - i. This includes evaluation of materials to determine if a non-hazardous substitute is possible.
- 3. Process Modification
 - i. Hazardous waste reduction can be accomplished by making changes in production processes.
 - ii. Inefficient or outdated production processes, which could be the source of hazardous waste generation, can be upgraded or replaced by a more efficient process.
 - iii. This can include:
 - Process modifications such as changes in equipment placement or ordering
 - Equipment modifications
 - Changes in operation settings and schedules
 - Process automation

90.4.5 Industrial Waste Water

Industrial waste water is any waste water generated as a result of manufacturing or other industrial operations.

- a. Examples of waste water include:
 - 1. Rinse water from turbine cleaning operations.
 - 2. Rinse water from metal cleaning and finishing operations.
 - 3. Oily water from dye penetrants, mop water, and coolants.
 - 4. Rinse water from steam cleaning operations.
 - 5. Air Compressor blow down.
 - 6. Rinse water from test cell wash down.
 - 7. Deburring machines.
- b. Many facilities typically have waste water treatment units that are designed to remove oil, metals, and/or suspended matter from waste water.
- c. Most of our customers have similar treatment systems.
- d. Field Service Personnel should consult with a customer representative in advance to determine the proper disposal or discharge of any runoff, that may be generated as a result of our work activities at their location.

90.4.6 Storm Water

- a. Recent studies have identified storm water runoff as a significant source of water pollution.
- b. Regulatory emphasis is on reducing the pollutants contained in storm water discharges to waterways.
- c. Best Management Practices are used to help prevent storm water pollution.
- d. Best Management Practices include:
 - 1. Good housekeeping practices that are designed to

- maintain a clean and orderly work environment.
 - 2. Preventative maintenance practices that ensure timely inspection and maintenance of facility equipment and systems.
 - 3. Visual inspections of areas and equipment at facilities that could contribute to storm water runoff pollutants.
 - 4. Spill prevention and response procedures.
 - 5. Sediment and erosion control measures used to limit soil erosion.
 - 6. Employee training program on storm water pollution prevention.
 - 7. Installing secondary containment for drums or tanks.
 - 8. Using drip pans during material transfer activities.
 - 9. Installing diversion dikes to prevent storm water from flowing onto certain areas.
 - 10. Utilizing dust control measures to suppress dust generated during excavations.
- e. Company employees can help to reduce storm water runoff at work and at home by:
- 1. Using good housekeeping practices while handling or using chemicals or hazardous materials.
 - 2. Participating in recycle programs, such as auto engine oil recycling.
 - 3. Reporting dumping of inappropriate materials into storm water drains to local municipal officials

90.4.7 Spill Prevention and Response

- a. The operation and maintenance of any industrial facility requires a minimal level of preparedness and common sense prevention

measures, to minimize the possibility of fire, explosion, or release of hazardous substances to the four environmental compartments:

1. Air
 2. Water
 3. Soil/sediment and biological life
- b. The purpose of such preparedness is to minimize threats to human health and the environment.
- c. The customer may have emergency response procedures that must be followed in the event of a spill or chemical release.
- d. Local government agencies may have reporting requirements if an accidental spill or release occurs.
1. For example, in the United States, the Environmental Protection Agency requires facilities operating near navigable waters to have a written Spill Prevention, Control and Countermeasures Plan (SPCC).
 2. Field Service Personnel should be familiar with the customer's emergency procedures.
- e. A spill prevention plan is designed to anticipate a spill and identify strategies to control or mitigate the spill.
- f. A well-designed facility, maintained by effectively trained personnel with efficient transfer handling equipment, proper alarms and adequate designs, is the best defense against serious spills.
- g. It is important to be prepared.
- h. Field Service Personnel should know a customer's emergency communication system and ensure that emergency response equipment is readily available.
- i. Physical Methods of controlling spills include:
1. **Absorption** is the process by which materials hold liquids through the process of wetting.

- i. This will result in an increase in the volume of the sorbent system.
 - ii. Contaminated absorbent materials retain the properties of the absorbed hazardous liquid and therefore must be considered hazardous.
 - iii. Typical absorbent materials include:
 - Sawdust
 - Clays
 - Vermiculite
 - Charcoal
 - Polyolefin fibers.
2. **Adsorption** is the process by which a hazardous liquid interacts with a solid surface sorbent.
 - i. This differs from absorption in that no volume increase occurs .
 - ii. There may be heat released as a result of the adsorption process.
3. **Dilution** refers to the application of water to water soluble hazardous materials.
 - i. The goal is to reduce the hazard; however, flooding, reaction, and the creation of a larger volume of waste must be considered.
4. **Dikes, Dams, Diversions and Retention** refers to the use of physical barriers to prevent or reduce the quantity of liquid flowing into the environment.
 - i. This method is frequently used.
 - ii. Commercially available sorbent materials are frequently packaged to allow for improvised construction of dams or dikes.

5. **Overpacking** refers to the placement of a leaking container into a similar, yet larger container, such as the use of recovery drums.
 - i. The overpack container material must be compatible with the hazardous material.
 - ii. For example, some products must be stored in plastic rather than metal containers, and vice versa.
6. **Plug and Patch** refers to the use of compatible plugs and patches to reduce, or temporarily stop, the flow of material from small holes or tears.
 - i. Patches are available in an assortment including magnetic steel, fabrics, adhesives, and epoxies.
 - ii. Piping may be patched with devices similar to hose clamps.
- j. When spills occur on land, the spill can move in two directions, both horizontally and vertically.
 1. Frequently, the method of containment involves use of the earth itself to build dikes or dams.
 2. If the spill occurs in an urban area, storm sewers, manholes, drainage ditches, and other water entry points, must be protected from the spill.
- k. **Air Pollution** is perhaps the greatest concern to the health and welfare of our community.
 1. Studies have shown that exposures to air pollution may reduce lung capacity, lower stamina, and leave people more vulnerable to long-term respiratory problems.
 2. Sources of air pollution include:
 - i. Trucks and automobiles

- ii. Industrial operations such as surface coating or painting operations which emit gaseous chemicals known as volatile organic compounds.
 - iii. (VOC) Abrasive blasting operations
 - iv. Combustion sources such as turbine test cells and electrical generators emit by-products that include carbon monoxide, nitrogen dioxide, and sulfur dioxide.
- l. Laws governing air emissions from industrial facilities are implemented by government agencies.
- m. Many industrial facilities have special air permits that specify operating conditions, process materials, and recordkeeping requirements, and have developed procedures to help ensure equipment is operated in accordance with permit requirements, as well as any other applicable requirements.
- n. The Company has committed substantial resources to minimizing its impact on air quality.
 - 1. Any new source of pollution must be evaluated by the Company Environmental Staff prior to installation.
 - 2. Many of our plant operations have devices that capture air contaminants before they are released.
- o. Company employees can help to reduce air pollution at work and at home by:
 - 1. Being aware of, and familiar with, applicable procedures related to air permit requirements.
 - 2. Be aware of how your work activities may contribute to the air pollution problem.
 - 3. Keeping your car or Company owned vehicles in good running condition.

4. Avoid using aerosol spray cans.
5. Not topping off your gas tank.
6. Gasoline spillage evaporates, contributes to smog, and contains toxic pollutants such as benzene.

90.5 Training Requirements

90.5.1 Company personnel will be trained on the following topics:

- a. Hazardous materials.
- b. Industrial waste.
- c. Types of pollution.
- d. Minimizing negative environmental impact.
- e. Contents of this procedure.

90.6 Training Frequency

90.6.1 Company personnel will be trained on the following schedule:

- a. Initially upon hire.
- b. Every twelve months.

90.7 Definitions

90.7.1 **Hazardous Waste** is material that is either no longer wanted, or fit for its intended purpose.

- a. A waste is defined as hazardous if it has one or more of the following characteristics: ignitable, corrosive, reactive, and toxic.

90.7.2 **Industrial Waste Water** is any waste water generated as a result of

manufacturing or other industrial operations; for example, rinse water from turbine cleaning operations.

Section 96.0

BEST MANAGEMENT PRACTICES (BMP) PLAN FOR SPENT BLAST ABRASIVE AND ASSOCIATED MATERIAL

96.1 Purpose

The purpose of this procedure is to establish Best Management Practices (BMP) that are to be followed to safely prevent and minimize, to the maximum extent practicable, the discharge of spent blast abrasive, paint chips, coating overspray to the surrounding water. Additionally, any maintenance waste which is captured must be properly packaged and transported to shore for proper disposal. This plan defines practices to contain and capture maintenance waste, including but not limited to spent blast abrasive and associated materials, to the maximum extent practicable, during maintenance coating operations on offshore facilities and MODU's.

96.2 Scope

BMP procedures apply to all surface preparation and coating operations in the Gulf of Mexico involving offshore exploration, production and development operations including fixed and floating facilities and MODUs. These facilities must be inspected periodically and maintained in order to assure structural integrity and minimize pollution risks.

96.3 Responsibilities

96.3.1 The President or his designee is responsible for ensuring that employees have completed the training required by this procedure.

a. Additional responsibilities include:

1. Ensuring that employees have been properly trained.
2. The implementation of this Policy.
3. Take corrective actions on all violations or suspected violations of this procedure.
4. Documentation of completion by each employee shall be evidenced by the attached roster form found at the end of this section.

96.3.2 The Safety Director is responsible for aiding in the implementation of this Procedure.

a. Additional responsibilities include:

1. Keeping the president informed of any incidents related to this Procedure.
2. Conducting inspections to identify any violation of this Policy.

96.3.3 The supervisor in charge of each crew is responsible for taking reasonable care to protect the environment, and to follow the BMP established by the operator while conducting their work activities according to the requirements in this procedure.

a. Additional responsibilities include:

1. Pre-job and daily inspections of the work area and written confirmation that conditions are in compliance with the BMP.

2. Ensure that all affected company personnel have been made aware of the company environmental procedures associated with the BMP.
3. Ensure that all employees follow the procedures in this policy.
4. Report any environmental incidents to the President.

96.3.4 Company personnel are responsible for understanding the contents of this procedure.

a. Additional responsibilities include:

1. Completing the required training on this Policy.
2. Implementing the training on this Policy.
3. Recognizing hazards that could impact the Company and or the Operators BMP.

96.4 Procedure

96.4.1 Containment and Capture Practices.

Containment and capture practices for surface preparation and coating activities are typically organized according to zones (i.e., Zones 1 through 3) on offshore facilities. It is the responsibility of the Supervisor to recognize these zones and understand the specific Operator requirements for each. Maintenance activities that require compliance with BMP include, but not limited to the following:

- a. Abrasive Blasting.
- b. Water Blasting.
- c. Surface Coating:
 1. Coating Residues

2. Paint Overspray
3. Coating Supplies.

96.4.2 General BMP.

Practices which assist in the containment and minimization of waste associated with surface blasting and coating operations includes.

- a. Good Housekeeping;
- b. Preventive Maintenance;
- c. Recordkeeping;
- d. Inspections;
- e. Evaluation and Reevaluation;
- f. Training;
- g. Work Permits;
- h. General Safety.

Designated areas associated with the BMP are detailed in the clients site specific BMP and shall be strictly adhered to by all Waveland Services, Inc. personnel.

BMP PLAN TRAINING DOCUMENTATION FORM

Facility: _____

Date: _____

Given By: _____
Signature

Print Name _____

Topics Discussed: BMP (Site Specific)

Location:(If applies)

GENERAL REQUIREMENT, DEVELOPMENT AND Implementation of the Plan, GENERAL BMP, ZONE DESCRIPTIONS AND CONTAINMENT CONTROL OPTIONS, ABRASIVE BLASTING BMP, WATER BLASTING BMP, SURFACE COATING BMP, WASTE MINIMIZATION PRACTICES

[illegible]